



Amendments to the Claims

Please amend the Claims as follows:

1. (Currently Amended) A polaroid encoder system for detecting movement, said system comprising:
 - a movable polarizing code element;
 - a detector module to detect an amplitude based on how much illumination passes through a first portion of said movable polarizing code element, said detector module comprising:
 - a first light detector covered with a first static polarizing filter that is oriented in a first direction;
 - a second light detector covered with a second static polarizing filter that is oriented in a second direction;
 - a first determination module to identify a quadrant of said movable polarizing code element based on how much illumination passes through a second portion of said movable polarizing code element; and
 - a second determination module coupled to receive said amplitude and said quadrant and to determine an angular position of said movable polarizing code element using said amplitude and said quadrant.
2. (Original) The system of Claim 1, further comprising:
 - a controller module coupled to receive said angular position of said movable polarizing code element.
3. (Original) The system of Claim 2, wherein said controller module uses said angular position to control a device coupled with said movable-polarizing code element.
4. (Currently Amended) The system of Claim 1, wherein said second direction is substantially perpendicular to said first direction.
5. (Currently Amended) The system of Claim 1, wherein said first light detector and said second light detector each comprise a photodiode.

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6. (Original) The system of Claim 1, wherein said movable polarizing code element comprises a code.

7. (Original) The system of Claim 6, wherein said code is located within a segment of said second portion of said movable polarizing code element.

8. (Original) The system of Claim 1, wherein said detector module to also detect how much illumination passes through said second portion of said movable polarizing code element.

9. (Currently Amended) A method for determining angular position of a movable polarizing code element, said method comprising:

illuminating said movable polarizing code element;

detecting a first amplitude based on how much illumination passes through a first portion of said movable polarizing code element and a first static polarizing filter oriented in a first direction;

detecting a second amplitude based on how much illumination passes through a first portion of said movable polarizing code element and a second static polarizing filter oriented in a second direction;

determining a quadrant of said movable polarizing code element based on how much illumination passes through a second portion of said movable polarizing code element; and

determining said angular position of said movable polarizing code element using said first amplitude, said second amplitude and said quadrant.

10. (Original) The method as described in Claim 9, further comprising:

utilizing said angular position to control a device coupled with said movable polarizing code element.

11. (Original) The method as described in Claim 9, wherein said movable polarizing code element comprises a substantially opaque code.

12. (Original) The method as described in Claim 11, wherein said determining said quadrant comprises utilizing said substantially opaque code.

13. (Original) The method as described in Claim 12, wherein said detecting said amplitude comprises utilizing a static polarizing filter.

14. (Currently Amended) The method as described in Claim 9, wherein said first direction is substantially perpendicular to said second direction.

15. (Currently Amended) The method as described in Claim 9, wherein said detecting said first amplitude further comprises utilizing a first photodiode covered by said first static polarizing filter, wherein said detecting said second amplitude further comprises utilizing a second photodiode covered by said second static polarizing filter.

16. (Original) The method as described in Claim 9, further comprising: detecting how much illumination passes through said second portion of said movable polarizing code element.

17. (Currently Amended) A system for determining an angular position of a movable polarizing code element, said system comprising:

means for illuminating said movable polarizing code element;

means for detecting a first amplitude based on how much illumination passes through a first portion of said movable polarizing code element and a first static polarizing filter oriented in a first direction;

means for detecting a second amplitude based on how much illumination passes through a first portion of said movable polarizing code element and a second static polarizing filter oriented in a second direction;

means for identifying a quadrant of said movable polarizing code element based on how much illumination passes through a second portion of said movable polarizing code element; and

means for determining said angular position of said movable polarizing code element using said first amplitude, said second amplitude and said quadrant.

18. (Original) The system of Claim 17, further comprising:
means for utilizing said angular position to move an apparatus coupled with
said movable polarizing code element.

19. (Original) The system of Claim 17, wherein said movable polarizing
code element comprises a substantially opaque code.

20. (Original) The system of Claim 19, wherein said substantially opaque
code substantially obscures illumination from being received by said means for
identifying said quadrant.

21. (Original) The system of Claim 17, wherein said first direction is
substantially perpendicular to said second direction.

22. (Original) The system of Claim 17, wherein said means for detecting
said amplitude comprises a photodiode covered by a static polarizing filter.